

## SEQUENCE LISTING

<110> Bander, Neil H.

<120> METHODS AND COMPOSITIONS FOR TREATING OR PREVENTING  
INSULIN-RELATED DISORDERS USING BINDING AGENTS SPECIFIC FOR  
PROSTATE SPECIFIC MEMBRANE ANTIGEN

<130> 10448-196001

<150> 60/422,396

<151> 2002-10-30

<160> 128

<170> FastSEQ for Windows Version 4.0

<210> 1

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<212> PRT

<213> Mus musculus

<400> 1

Gly	Tyr	Thr	Phe	Thr	Glu	Tyr	Thr	Ile	His
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<210> 2

<211> 17

<212> PRT

<213> Mus musculus

<400> 2

Asn	Ile	Asn	Pro	Asn	Asn	Gly	Gly	Thr	Thr	Tyr	Asn	Gln	Lys	Phe	Glu
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Asp

<210> 3

<211> 6

<212> PRT

<213> Mus musculus

<400> 3

Gly	Trp	Asn	Phe	Asp	Tyr
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<210> 4

<211> 11

<212> PRT

<213> Mus musculus

<400> 4

Lys	Ala	Ser	Gln	Asp	Val	Gly	Thr	Ala	Val	Asp
1				5				10		

<210> 5

<211> 7  
 <212> PRT  
 <213> Mus musculus

<400> 5  
 Trp Ala Ser Thr Arg His Thr  
 1 5

<210> 6  
 <211> 9  
 <212> PRT  
 <213> Mus musculus

<400> 6  
 Gln Gln Tyr Asn Ser Tyr Pro Leu Thr  
 1 5

<210> 7  
 <211> 82  
 <212> PRT  
 <213> Mus musculus

<400> 7  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Thr  
 1 5 10 15  
 Ser Val Arg Ile Ser Cys Lys Thr Ser Trp Val Lys Gln Ser His Gly  
 20 25 30  
 Lys Ser Leu Glu Trp Ile Gly Lys Ala Thr Leu Thr Val Asp Lys Ser  
 35 40 45  
 Ser Ser Thr Ala Tyr Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser  
 50 55 60  
 Ala Val Tyr Tyr Cys Ala Ala Trp Gly Gln Gly Thr Thr Leu Thr Val  
 65 70 75 80  
 Ser Ser

<210> 8  
 <211> 80  
 <212> PRT  
 <213> Mus musculus

<400> 8  
 Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Ser Ile Ile Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser  
 20 25 30  
 Pro Lys Leu Leu Ile Tyr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly  
 35 40 45  
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser Glu Asp  
 50 55 60  
 Leu Ala Asp Tyr Phe Cys Phe Gly Ala Gly Thr Met Leu Asp Leu Lys  
 65 70 75 80

<210> 9  
 <211> 25  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 9

Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Pro	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	
Thr	Val	Lys	Ile	Ser	Cys	Lys	Thr	Ser							
			20					25							

<210> 10

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 10

Trp	Val	Lys	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Ile	Gly
1				5					10				

<210> 11

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 11

Lys	Ala	Thr	Leu	Thr	Val	Asp	Lys	Ser	Thr	Asp	Thr	Ala	Tyr	Met	Glu
1				5					10					15	
Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Ala
			20					25					30		

<210> 12

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 12

Trp	Gly	Gln	Gly	Thr	Leu	Leu	Thr	Val	Ser	Ser
1				5					10	

<210> 13

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J591

<400> 13

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Thr Leu Thr Cys  
 20

<210> 14  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J591

<400> 14  
 Trp Tyr Gln Gln Lys Pro Gly Pro Ser Pro Lys Leu Leu Ile Tyr  
 1 5 10 15

<210> 15  
 <211> 32  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J591

<400> 15  
 Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 1 5 10 15  
 Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr Tyr Cys  
 20 25 30

<210> 16  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J591

<400> 16  
 Phe Gly Pro Gly Thr Lys Val Asp Ile Lys  
 1 5 10

<210> 17  
 <211> 82  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J591

<400> 17  
 Glu Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Thr Val Lys Ile Ser Cys Lys Thr Ser Trp Val Lys Gln Ala Pro Gly  
 20 25 30  
 Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu Thr Val Asp Lys Ser

```

      35              40              45
Thr Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
      50              55              60
Ala Val Tyr Tyr Cys Ala Ala Trp Gly Gln Gly Thr Leu Leu Thr Val
      65              70              75              80
Ser Ser

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<210> 18  
 <211> 80  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J591

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<400> 18
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr Ser Val Gly
  1              5              10              15
Asp Arg Val Thr Leu Thr Cys Trp Tyr Gln Gln Lys Pro Gly Pro Ser
      20              25              30
Pro Lys Leu Leu Ile Tyr Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly
      35              40              45
Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp
      50              55              60
Phe Ala Asp Tyr Tyr Cys Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
      65              70              75              80

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<210> 19  
 <211> 115  
 <212> PRT  
 <213> Mus musculus

```

<400> 19
Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Thr
  1              5              10              15
Ser Val Arg Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
      20              25              30
Thr Ile His Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
      35              40              45
Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe
      50              55              60
Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Ala Tyr
      65              70              75              80
Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
      85              90              95
Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr
      100              105              110
Val Ser Ser
      115

```

<210> 20  
 <211> 107  
 <212> PRT  
 <213> Mus musculus

<400> 20

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Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly
 1           5           10           15
Asp Arg Val Ser Ile Ile Cys Lys Ala Ser Gln Asp Val Gly Thr Ala
          20           25           30
Val Asp Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
          35           40           45
Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly
          50           55           60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser
65          70          75          80
Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Leu
          85          90          95
Thr Phe Gly Ala Gly Thr Met Leu Asp Leu Lys
          100          105

```

<210> 21

<211> 115

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 21

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Glu Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala
 1           5           10           15
Thr Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr
          20           25           30
Thr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
          35           40           45
Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe
          50           55           60
Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Thr Asp Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
          85          90          95
Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr Leu Leu Thr
          100          105          110
Val Ser Ser
          115

```

<210> 22

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J591

<400> 22

```

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr Ser Val Gly
 1           5           10           15
Asp Arg Val Thr Leu Thr Cys Lys Ala Ser Gln Asp Val Gly Thr Ala
          20           25           30
Val Asp Trp Tyr Gln Gln Lys Pro Gly Pro Ser Pro Lys Leu Leu Ile
          35           40           45
Tyr Trp Ala Ser Thr Arg His Thr Gly Ile Pro Ser Arg Phe Ser Gly

```

50		55		60	
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro					
65		70		75	80
Glu Asp Phe Ala Asp Tyr Tyr Cys Gln Gln Tyr Asn Ser Tyr Pro Leu					
	85		90		95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys					
	100		105		

&lt;210&gt; 23

&lt;211&gt; 807

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (122)...(166)

&lt;221&gt; CDS

&lt;222&gt; (249)...(605)

&lt;223&gt; deimmunized heavy chain J591

&lt;400&gt; 23

aagcttatga	atatgcaa	at cctctgaatc	tacatggtaa	atatagggtt	gtctatacca	60
caaacagaaa	aacatgagat	cacagttctc	tctacagtta	ctgagcacac	aggacctcac	120
c atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca						166
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr						
1	5	10	15			

ggtaaggggc	tcacagtagc	aggcttgagg	tctggacata	tatatgggtg	acaatgacat	226
ccactttgcc	tttctctcca	ca ggt gtc cac tcc gag gtc caa ctg gta cag				278
		Gly Val His Ser Glu Val Gln Leu Val Gln				
		20	25			

tct gga cct gaa gtg aag aag cct ggg gct aca gtg aag ata tcc tgc	326	
Ser Gly Pro Glu Val Lys Lys Pro Gly Ala Thr Val Lys Ile Ser Cys		
30	35	40

aag act tct gga tac aca ttc act gaa tat acc ata cac tgg gtg aag	374	
Lys Thr Ser Gly Tyr Thr Phe Thr Glu Tyr Thr Ile His Trp Val Lys		
45	50	55

cag gcc cct gga aag ggc ctt gag tgg att gga aac atc aat cct aac	422	
Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly Asn Ile Asn Pro Asn		
60	65	70

aat ggt ggt acc acc tac aat cag aag ttc gag gac aag gcc aca cta	470	
Asn Gly Gly Thr Thr Tyr Asn Gln Lys Phe Glu Asp Lys Ala Thr Leu		
75	80	85

act gta gac aag tcc acc gat aca gcc tac atg gag ctc agc agc cta	518		
Thr Val Asp Lys Ser Thr Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu			
90	95	100	105

aga tct gag gat act gca gtc tat tat tgt gca gct ggt tgg aac ttt	566	
Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ala Gly Trp Asn Phe		
110	115	120

gac tac tgg ggc caa ggg acc ctg ctc acc gtc tcc tca ggtgagtcct 615  
 Asp Tyr Trp Gly Gln Gly Thr Leu Leu Thr Val Ser Ser  
 125 130

tacaacctct ctcttctatt cagcttaaat agattttact gcatttggtg ggggggaaat 675  
 gtgtgtatct gaatttcagg tcatgaagga ctagggacac cttgggagtc agaaagggtc 735  
 attgggagcc cgggctgatg cagacagaca tcctcagctc ccagacttca tggccagaga 795  
 tttataggat cc 807

<210> 24

<211> 807

<212> DNA

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J591

<400> 24

ggatcctata aatctctggc catgaagtct gggagctgag gatgtctgtc tgcacagcc 60  
 cgggctccca atgacccttt ctgactccca aggtgtccct agtccttcat gacctgaaat 120  
 tcagatacac acatttcccc cccaacaaat gcagtaaaat ctatttaagc tgaatagaag 180  
 agagaggttg taaggactca cctgaggaga cggtgagcag ggtcccttgg cccagtagt 240  
 caaagttcca accagctgca caataataga ctgcagtatc ctcagatctt aggctgctga 300  
 gctccatgta ggctgtatcg gtggacttgt ctacagttag tgtggccttg tcctcgaact 360  
 tctgattgta ggtggtacca ccattgttag gattgatgtt tccaatccac tcaaggccct 420  
 ttccaggggc ctgcttcacc cagtgtatgg tatattcagt gaatgtgtat ccagaagtct 480  
 tgcaggatat cttcactgta gcccaggct tcttcacttc aggtccagac tgtaccagtt 540  
 ggacctcgga gtggacacct gtggagagaa aggcaaagtg gatgtcattg tcaccatat 600  
 atatgtccag acctcaagcc tgctactgtg agccccttac ctgtagctgt tgctaccaag 660  
 aagaggatga tacagctcca tcccatggtg aggtcctgtg tgctcagtaa ctgtagagag 720  
 aactgtgac tcattgtttt ctgtttgtgg tatagacaaa cctatatatta ccatgtagat 780  
 tcagaggatt tgcattattca taagctt 807

<210> 25

<211> 620

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (122) ... (166)

<221> CDS

<222> (249) ... (581)

<223> deimmunized light chain J591

<400> 25

aagcttatga atatgcaaat cctctgaatc tacatggtaa atataggttt gtctatacca 60  
 caaacagaaa aacatgagat cacagttctc tctacagtta ctgagcacac aggacctcac 120  
 c atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca 166  
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr  
 1 5 10 15

ggtaaggggc tcacagtagc aggcttgagg tctggacata tatatgggtg acaatgacat 226  
 ccactttgcc tttctctcca ca ggt gtc cac tcc gac atc cag atg acc cag 278



Gly Val His Ser Asp Ile Gln Met Thr Gln  
20 25

tct ccc tca tcc ctg tcc aca tca gta gga gac agg gtc acc ctc acc 326  
Ser Pro Ser Ser Leu Ser Thr Ser Val Gly Asp Arg Val Thr Leu Thr  
30 35 40

tgt aag gcc agt caa gat gtg ggt act gct gta gac tgg tat caa cag 374  
Cys Lys Ala Ser Gln Asp Val Gly Thr Ala Val Asp Trp Tyr Gln Gln  
45 50 55

aaa cca gga cca tct cct aaa cta ctg att tat tgg gca tcc act cgg 422  
Lys Pro Gly Pro Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg  
60 65 70

cac act gga atc cct agt cgc ttc tca ggc agt gga tct ggg aca gac 470  
His Thr Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp  
75 80 85

ttc act ctc acc att tct agt ctt cag cct gaa gac ttt gca gat tat 518  
Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr  
90 95 100 105

tac tgt cag caa tat aac agc tat cct ctc acg ttc ggt cct ggg acc 566  
Tyr Cys Gln Gln Tyr Asn Ser Tyr Pro Leu Thr Phe Gly Pro Gly Thr  
110 115 120

aag gtg gac atc aaa cgtgagtaga atttaaactt tgcttctca gttggatcc 620  
Lys Val Asp Ile Lys  
125

<210> 26

<211> 620

<212> DNA

<213> Artificial Sequence

<220>

<223> deimmunized light chain J591

<400> 26

ggatccaact gaggaagcaa agtttaaatt ctactcacgt ttgatgtcca ccttggtccc 60  
aggaccgaac gtgagaggat agctgttata ttgctgacag taataatctg caaagtcttc 120  
aggctgaaga ctagaaatgg tgagagtga gtctgtccca gatccactgc ctgagaagcg 180  
actagggatt ccagtgtgcc gagtggatgc ccaataaatc agtagtttag gagatgggtcc 240  
tggtttctgt tgataccagt ctacagcagt acccacatct tgactggcct tacaggtgag 300  
ggtgaccctg tctcctactg atgtggacag ggatgagga gactgggtca tctggatgtc 360  
ggagtggaca cctgtggaga gaaaggcaaa gtggatgtca ttgtcaccca tatatatgtc 420  
cagacctcaa gcctgtact gtgagccct tacctgtagc tgttgctacc aagaagagga 480  
tgatacagct ccattccatg gtgaggtcct gtgtgtcag taactgtaga gagaactgtg 540  
atctcatgtt tttctgtttg tggtatagac aaacctatat ttaccatgta gattcagagg 600  
attgcatat tcataagctt 620

<210> 27

<211> 134

<212> PRT

<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized heavy chain J591

&lt;400&gt; 27

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1           5           10           15
Val His Ser Glu Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys
          20           25           30
Pro Gly Ala Thr Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe
        35           40           45
Thr Glu Tyr Thr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu
      50           55           60
Glu Trp Ile Gly Asn Ile Asn Pro Asn Asn Gly Gly Thr Thr Tyr Asn
65           70           75           80
Gln Lys Phe Glu Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Thr Asp
          85           90           95
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
        100           105           110
Tyr Tyr Cys Ala Ala Gly Trp Asn Phe Asp Tyr Trp Gly Gln Gly Thr
      115           120           125
Leu Leu Thr Val Ser Ser
    130

```

&lt;210&gt; 28

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J591

&lt;400&gt; 28

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1           5           10           15
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Thr
          20           25           30
Ser Val Gly Asp Arg Val Thr Leu Thr Cys Lys Ala Ser Gln Asp Val
        35           40           45
Gly Thr Ala Val Asp Trp Tyr Gln Gln Lys Pro Gly Pro Ser Pro Lys
      50           55           60
Leu Leu Ile Tyr Cys Ala Ser Thr Arg His Thr Gly Ile Pro Ser Arg
65           70           75           80
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser
          85           90           95
Leu Gln Pro Glu Asp Phe Ala Asp Tyr Cys Gln Gln Tyr Asn Ser
        100           105           110
Tyr Pro Leu Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
      115           120           125

```

&lt;210&gt; 29

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 29

```

Gly Phe Thr Phe Ser Asn Tyr Trp Met Asn

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1	5	10
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<210> 30  
 <211> 19  
 <212> PRT  
 <213> Mus musculus

<400> 30  
 Glu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu Ser  
 1 5 10 15  
 Val Lys Gly

<210> 31  
 <211> 5  
 <212> PRT  
 <213> Mus musculus

<400> 31  
 Arg Trp Asn Asn Phe  
 1 5

<210> 32  
 <211> 11  
 <212> PRT  
 <213> Mus musculus

<400> 32  
 Lys Ala Ser Glu Asn Val Gly Thr Tyr Val Ser  
 1 5 10

<210> 33  
 <211> 7  
 <212> PRT  
 <213> Mus musculus

<400> 33  
 Gly Ala Ser Asn Arg Phe Thr  
 1 5

<210> 34  
 <211> 9  
 <212> PRT  
 <213> Mus musculus

<400> 34  
 Gly Gln Ser Tyr Thr Phe Pro Tyr Thr  
 1 5

<210> 35  
 <211> 82  
 <212> PRT  
 <213> Mus musculus

<400> 35  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
 1 5 10 15

Ser Met Lys Leu Ser Cys Val Ala Ser Trp Val Arg Gln Ser Pro Glu  
                   20                  25                  30  
 Lys Gly Leu Glu Trp Val Ala Arg Val Ile Ile Ser Arg Asp Asp Ser  
                   35                  40                  45  
 Lys Ser Ser Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr  
                   50                  55                  60  
 Gly Ile Tyr Tyr Cys Thr Arg Trp Gly Gln Gly Thr Thr Leu Thr Val  
 65                  70                  75                  80  
 Ser Ser

<210> 36  
 <211> 80  
 <212> PRT  
 <213> Mus musculus

<400> 36  
 Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ile Ser Val Gly  
   1                  5                  10                  15  
 Glu Arg Val Thr Leu Thr Cys Trp Tyr Gln Gln Lys Pro Glu Gln Ser  
                   20                  25                  30  
 Pro Lys Met Leu Ile Tyr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly  
                   35                  40                  45  
 Ser Ala Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Thr Glu Asp  
                   50                  55                  60  
 Leu Val Asp Tyr Tyr Cys Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 65                  70                  75                  80

<210> 37  
 <211> 25  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-4

<400> 37  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
   1                  5                  10                  15  
 Ser Met Lys Ile Ser Cys Val Ala Ser  
                   20                  25

<210> 38  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-4

<400> 38  
 Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val Ala  
   1                  5                  10

<210> 39  
 <211> 32  
 <212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J415-4

<400> 39

Arg	Val	Ile	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser	Val	Tyr	Leu	Gln
1				5					10					15	
Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Thr	Arg
			20					25					30		

<210> 40

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J415-4

<400> 40

Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser
1				5					10	

<210> 41

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-5

<400> 41

Asn	Ile	Val	Met	Thr	Gln	Phe	Pro	Lys	Ser	Met	Ser	Ala	Ser	Ala	Gly
1				5					10					15	
Glu	Arg	Met	Thr	Leu	Thr	Cys									
				20											

<210> 42

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-5

<400> 42

Trp	Tyr	Gln	Gln	Lys	Pro	Thr	Gln	Ser	Pro	Lys	Met	Leu	Ile	Tyr
1				5					10					15

<210> 43

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-5

&lt;400&gt; 43

Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ile
1				5				10					15		
Leu	Thr	Ile	Ser	Ser	Val	Gln	Ala	Glu	Asp	Leu	Val	Asp	Tyr	Tyr	Cys
			20					25					30		

&lt;210&gt; 44

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-5

&lt;400&gt; 44

Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Met	Lys
1				5				10	

&lt;210&gt; 45

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized heavy chain J415-4

&lt;400&gt; 45

Glu	Val	Lys	Leu	Glu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10					15		
Ser	Met	Lys	Ile	Ser	Cys	Val	Ala	Ser	Trp	Val	Arg	Gln	Ser	Pro	Glu
			20					25				30			
Lys	Gly	Leu	Glu	Trp	Val	Ala	Arg	Val	Ile	Ile	Ser	Arg	Asp	Asp	Ser
		35				40					45				
Lys	Ser	Ser	Val	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr
	50				55				60						
Ala	Val	Tyr	Tyr	Cys	Thr	Arg	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val
65					70				75						80
Ser	Ser														

&lt;210&gt; 46

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-5

&lt;400&gt; 46

Asn	Ile	Val	Met	Thr	Gln	Phe	Pro	Lys	Ser	Met	Ser	Ala	Ser	Ala	Gly
1				5				10					15		
Glu	Arg	Met	Thr	Leu	Thr	Cys	Trp	Tyr	Gln	Gln	Lys	Pro	Thr	Gln	Ser
			20					25				30			
Pro	Lys	Met	Leu	Ile	Tyr	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly
		35				40					45				
Ser	Gly	Thr	Asp	Phe	Ile	Leu	Thr	Ile	Ser	Ser	Val	Gln	Ala	Glu	Asp
	50				55				60						

Leu Val Asp Tyr Tyr Cys Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 65 70 75 80

<210> 47  
 <211> 116  
 <212> PRT  
 <213> Mus musculus

<400> 47  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
 1 5 10 15  
 Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr  
 20 25 30  
 Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val  
 35 40 45  
 Ala Glu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu  
 50 55 60  
 Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser  
 65 70 75 80  
 Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr  
 85 90 95  
 Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr Leu  
 100 105 110  
 Thr Val Ser Ser  
 115

<210> 48  
 <211> 107  
 <212> PRT  
 <213> Mus musculus

<400> 48  
 Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ile Ser Val Gly  
 1 5 10 15  
 Glu Arg Val Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr  
 20 25 30  
 Val Ser Trp Tyr Gln Gln Lys Pro Glu Gln Ser Pro Lys Met Leu Ile  
 35 40 45  
 Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Thr Gly  
 50 55 60  
 Ser Gly Ser Ala Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Thr  
 65 70 75 80  
 Glu Asp Leu Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr  
 85 90 95  
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 100 105

<210> 49  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-4

<400> 49  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

```

1           5           10           15
Ser Met Lys Ile Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20           25           30
Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
35           40           45
Ala Glu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu
50           55           60
Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser
65           70           75           80
Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
85           90           95
Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr Val
100          105          110
Thr Val Ser Ser
115

```

<210> 50  
 <211> 107  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J415-5

```

<400> 50
Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ala Ser Ala Gly
1           5           10           15
Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr
20           25           30
Val Ser Trp Tyr Gln Gln Lys Pro Thr Gln Ser Pro Lys Met Leu Ile
35           40           45
Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser Gly
50           55           60
Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Ala
65           70           75           80
Glu Asp Leu Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr
85           90           95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys
100          105

```

<210> 51  
 <211> 348  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-4

```

<400> 51
gaagtgaaac ttgaggagtc tggaggaggc ttggtgcaac ctggagggtc catgaaaatc      60
tcctgtgttg cctctggatt cactttcagt aattactgga tgaactgggt ccgccagtct      120
ccagagaagg ggcttgagtg ggttgctgaa attagatcgc aatctaataa ttttgcaaca      180
cattatgcgg agtctgtgaa agggagggtc atcatctcaa gagatgattc caagagtagt      240
gtctacctgc aatgaacag tttgagagct gaagacactg ccgtttatta ctgtaccagg      300
cgatggaata atttctgggg ccaaggcacc actgtcacag tctcctca      348

```

<210> 52



<211> 321  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> deimmunized light chain J415-5

<400> 52  
 aacattgtaa tgaccaatt tcccaaattcc atgtccgcct cagcaggaga gaggatgacc 60  
 ttgacctgca aggccagtga gaatgtgggt acttatgtgt cctgggtatca acagaaacca 120  
 acacagtctc ctaagatgtt gatatacggg gcatccaacc ggttcactgg ggtcccagat 180  
 cgcttctccg gcagtggatc tggaacagat ttcattctga ccatcagcag tgtgcaggca 240  
 gaagaccttg tagattatta ctgtggacag agttacacct ttccgtacac gttcggaggg 300  
 gggaccaagc tggaaatgaa g 321

<210> 53  
 <211> 810  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-1

<221> CDS  
 <222> (122)...(160)

<221> CDS  
 <222> (249)...(608)

<400> 53  
 aagcttatga atatgcaaatt cctctgaatc tacatggtaa atataggttt gtctatacca 60  
 caaacagaaa aacatgagat cacagttctc tctacagtta ctgagcacac aggacctcac 120  
 c atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gctacaggta 170  
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr  
 1 5 10

agggggctcac agtagcaggc ttgaggtctg gacatatata tgggtgacaa tgacatccac 230  
 tttgcctttc tctccaca ggt gtc cac tcc gaa gtg aaa ctt gag gag tct 281  
 Gly Val His Ser Glu Val Lys Leu Glu Glu Ser  
 15 20

gga gga ggc ttg gtg caa cct gga ggg tcc atg aaa atc tcc tgt aaa 329  
 Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Met Lys Ile Ser Cys Lys  
 25 30 35 40

gcc tct gga ttc act ttc agt aat tac tgg atg aac tgg gtc cgc cag 377  
 Ala Ser Gly Phe Thr Phe Ser Asn Tyr Trp Met Asn Trp Val Arg Gln  
 45 50 55

act cca gag aag ggg ctt gag tgg gtt gct ctt att aga tcg caa tct 425  
 Thr Pro Glu Lys Gly Leu Glu Trp Val Ala Leu Ile Arg Ser Gln Ser  
 60 65 70

aat aat ttt gca aca cat tat gcg gag tct gtg aaa ggg agg gtc atc 473  
 Asn Asn Phe Ala Thr His Tyr Ala Glu Ser Val Lys Gly Arg Val Ile  
 75 80 85

```

atc tca aga gat gat tcc aag agt agt gtc tac ctg caa atg aac agt      521
Ile Ser Arg Asp Asp Ser Lys Ser Ser Val Tyr Leu Gln Met Asn Ser
   90                      95                      100

```

```

ttg aga gct gaa gac act gcc gtt tat tac tgt acc agg cga tgg aat      569
Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Thr Arg Arg Trp Asn
105                      110                      115                      120

```

```

aat ttc tgg ggc caa ggc acc act gtc aca gtc tcc tca ggtgagtcct      618
Asn Phe Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
                125                      130

```

```

tacaacctct ctcttctatt cagcttaaat agattttact gcatttggtg ggggggaaat      678
gtgtgtatct gaatttcagg tcatgaagga ctagggacac cttgggagtc agaaagggtc      738
attgggagcc cgggctgatg cagacagaca tcctcagctc ccagacttca tggccagaga      798
tttataggat cc                                                    810

```

<210> 54

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J415-1

<400> 54

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Gly Val His
 1                      5                      10                      15
Ser Glu Val Lys Leu Glu Glu Ser Gly Gly Leu Val Gln Pro Gly
   20                      25                      30
Gly Ser Met Lys Ile Ser Cys Lys Ala Ser Gly Phe Thr Phe Ser Asn
   35                      40                      45
Tyr Trp Met Asn Trp Val Arg Gln Thr Pro Glu Lys Gly Leu Glu Trp
   50                      55                      60
Val Ala Leu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala
 65                      70                      75                      80
Glu Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser
   85                      90                      95
Ser Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100                      105                      110
Tyr Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr
 115                      120                      125
Val Thr Val Ser Ser
 130

```

<210> 55

<211> 810

<212> DNA

<213> Artificial Sequence

<220>

<223> deimmunized heavy chain J415-1

<400> 55

```

ggatcctata aatctctggc catgaagtct gggagctgag gatgtctgtc tgcacagcc      60
cgggctccca atgacctttt ctgactccca aggtgtccct agtccttcat gacctgaaat      120
tcagatacac acatttcccc cccaacaaat gcagtaaaat ctatttaagc tgaatagaag      180

```

```

agagaggttg taaggactca cctgaggaga ctgtgacagt ggtgccttgg cccagaaat      240
tattccatcg cctgggtacag taataaacgg cagtgtcttc agctctcaaa ctgttcattt      300
gcaggtagac actactcttg gaatcatctc ttgagatgat gaccctccct ttcacagact      360
ccgcataatg tgttgcaaaa ttattagatt gcgatctaata aagagcaacc cactcaagcc      420
ccttctctgg agtctggcgg acccagttca tccagtaatt actgaaagtg aatccagagg      480
ctttacagga gattttcatg gaccctccag gttgcaccaa gcctcctcca gactcctcaa      540
gtttcacttc ggagtggaca cctgtggaga gaaaggcaaa gtggatgtca ttgtcaccca      600
tatatatgtc cagacctcaa gcctgctact gtgagcccct tacctgtagc tgttgctacc      660
aagaagagga tgatacagct ccatcccatg gtgaggtcct gtgtgctcag taactgtaga      720
gagaactgtg atctcatgtt tttctgtttg tggatatagac aaacctatat ttaccatgta      780
gattcagagg atttgcataat tcataagctt      810

```

<210> 56

<211> 620

<212> DNA

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-1

<221> CDS

<222> (122)...(160)

<221> CDS

<222> (249)...(581)

<400> 56

```

aagcttatga atatgcaaat cctctgaatc tacatggtaa atataggttt gtctatacca      60
caaacagaaa aacatgagat cacagttctc tctacagtta ctgagcacac aggacctcac      120
c atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gctacaggta      170
  Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr
    1             5             10

```

```

aggggctcac agtagcaggc ttgaggtctg gacatatata tgggtgacaa tgacatccac      230
tttgcctttc tctccaca ggt gtc cac tcc aac att gta atg acc caa tcc      281
              Gly Val His Ser Asn Ile Val Met Thr Gln Ser
                15                20

```

```

ccc aaa tcc atg tcc gcc tca gca gga gag agg atg acc ttg acc tgc      329
Pro Lys Ser Met Ser Ala Ser Ala Gly Glu Arg Met Thr Leu Thr Cys
  25             30             35             40

```

```

aag gcc agt gag aat tcc ggt act tat gtg tcc tgg tat caa cag aaa      377
Lys Ala Ser Glu Asn Ser Gly Thr Tyr Val Ser Trp Tyr Gln Gln Lys
      45             50             55

```

```

cca aca cag tct cct aag atg ttg ata tac ggg gca tcc aac cgg ttc      425
Pro Thr Gln Ser Pro Lys Met Leu Ile Tyr Gly Ala Ser Asn Arg Phe
      60             65             70

```

```

act ggg gtc cca gat cgc ttc tcc ggc agt gga tct gga aca gat ttc      473
Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
      75             80             85

```

```

att ctg acc gcc agc agt gtg cag gca gaa gac cct gta gat tat tac      521
Ile Leu Thr Ala Ser Ser Val Gln Ala Glu Asp Pro Val Asp Tyr Tyr
      90             95             100

```

tgt gga cag agt tac acc ttt ccg tac acg ttc gga ggg ggg acc aag 569  
 Cys Gly Gln Ser Tyr Thr Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys  
 105 110 115 120

ctg gaa atg aag cgtgagtaga atttaaactt tgcttcctca gttggatcc 620  
 Leu Glu Met Lys

<210> 57

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-1

<400> 57

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Gly Val His  
 1 5 10 15  
 Ser Asn Ile Val Met Thr Gln Ser Pro Lys Ser Met Ser Ala Ser Ala  
 20 25 30  
 Gly Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Ser Gly Thr  
 35 40 45  
 Tyr Val Ser Trp Tyr Gln Gln Lys Pro Thr Gln Ser Pro Lys Met Leu  
 50 55 60  
 Ile Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser  
 65 70 75 80  
 Gly Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ala Ser Ser Val Gln  
 85 90 95  
 Ala Glu Asp Pro Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro  
 100 105 110  
 Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 115 120

<210> 58

<211> 620

<212> DNA

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-1

<400> 58

ggatccaact gaggaagcaa agtttaaatt ctactcacgc ttcatttcca gcttggtccc 60  
 ccctccgaac gtgtacggaa aggtgtaact ctgtccacag taataatcta cagggtcttc 120  
 tgctgcaca ctgctggcgg tcagaatgaa atctgttcca gatccactgc cggagaagcg 180  
 atctgggacc ccagtgaacc ggttggatgc cccgtatata aacatcttag gagactgtgt 240  
 tggtttctgt tgataccagg acacataagt accggaattc tcaactggcct tgcagggtcaa 300  
 ggtcatcctc tctcctgctg aggcggacat ggatttgggg gattgggtca ttacaatggt 360  
 ggagtggaca cctgtggaga gaaaggcaaa gtggatgtca ttgtcaccca tatatatgtc 420  
 cagacctcaa gcctgtact gtgagcccct tacctgtagc tgttgctacc aagaagagga 480  
 tgatacagct ccattcccatg gtgaggtcct gtgtgctcag taactgtaga gagaactgtg 540  
 atctcatgtt tttctgtttg tggatatagac aaacctatat ttaccatgta gattcagagg 600  
 atttgcataat tcataagctt 620

<210> 59  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-2

<400> 59  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
 1 5 10 15  
 Ser Met Lys Ile Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr  
 20 25 30  
 Trp Met Asn Trp Val Arg Gln Thr Pro Glu Lys Gly Leu Glu Trp Val  
 35 40 45  
 Ala Leu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu  
 50 55 60  
 Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser  
 65 70 75 80  
 Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr  
 85 90 95  
 Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr Val  
 100 105 110  
 Thr Val Ser Ser  
 115

<210> 60  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> deimmunized heavy chain J415-3

<400> 60  
 Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
 1 5 10 15  
 Ser Met Lys Ile Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr  
 20 25 30  
 Trp Met Asn Trp Val Arg Gln Thr Pro Glu Lys Gly Leu Glu Trp Val  
 35 40 45  
 Ala Glu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu  
 50 55 60  
 Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser  
 65 70 75 80  
 Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr  
 85 90 95  
 Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr Val  
 100 105 110  
 Thr Val Ser Ser  
 115

<210> 61  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; majority sequence

&lt;400&gt; 61

```

Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1             5             10             15
Ser Met Lys Ile Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
          20             25             30
Trp Met Asn Trp Val Arg Gln Thr Pro Glu Lys Gly Leu Glu Trp Val
          35             40             45
Ala Glu Ile Arg Ser Gln Ser Asn Asn Phe Ala Thr His Tyr Ala Glu
          50             55             60
Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser
65             70             75             80
Val Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
          85             90             95
Tyr Cys Thr Arg Arg Trp Asn Asn Phe Trp Gly Gln Gly Thr Thr Val
          100             105             110
Thr Val Ser Ser
          115

```

&lt;210&gt; 62

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-2

&lt;400&gt; 62

```

Asn Ile Val Met Thr Gln Ser Pro Lys Ser Met Ser Ala Ser Ala Gly
 1             5             10             15
Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr
          20             25             30
Val Ser Trp Tyr Gln Gln Lys Pro Thr Gln Ser Pro Lys Met Leu Ile
          35             40             45
Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser Gly
          50             55             60
Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ala Ser Ser Val Gln Ala
65             70             75             80
Glu Asp Pro Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr
          85             90             95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys
          100             105

```

&lt;210&gt; 63

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-3

&lt;400&gt; 63

```

Asn Ile Val Met Thr Gln Ser Pro Lys Ser Met Ser Ala Ser Ala Gly
 1             5             10             15
Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr

```

			20					25				30					
Val	Ser	Trp	Tyr	Gln	Gln	Lys	Pro	Thr	Gln	Ser	Pro	Lys	Met	Leu	Ile		
			35					40				45					
Tyr	Gly	Ala	Ser	Asn	Arg	Phe	Thr	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly		
			50					55				60					
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ile	Leu	Thr	Ala	Ser	Ser	Val	Gln	Ala		
65							70			75					80		
Glu	Asp	Leu	Val	Asp	Tyr	Tyr	Cys	Gly	Gln	Ser	Tyr	Thr	Phe	Pro	Tyr		
				85					90					95			
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Met	Lys							
			100					105									

&lt;210&gt; 64

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-4

&lt;400&gt; 64

Asn	Ile	Val	Met	Thr	Gln	Ser	Pro	Lys	Ser	Met	Ser	Ala	Ser	Ala	Gly		
1				5				10						15			
Glu	Arg	Met	Thr	Leu	Thr	Cys	Lys	Ala	Ser	Glu	Asn	Val	Gly	Thr	Tyr		
			20					25				30					
Val	Ser	Trp	Tyr	Gln	Gln	Lys	Pro	Thr	Gln	Ser	Pro	Lys	Met	Leu	Ile		
			35				40					45					
Tyr	Gly	Ala	Ser	Asn	Arg	Phe	Thr	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly		
			50				55				60						
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ile	Leu	Thr	Ile	Ser	Ser	Val	Gln	Ala		
65							70			75					80		
Glu	Asp	Leu	Val	Asp	Tyr	Tyr	Cys	Gly	Gln	Ser	Tyr	Thr	Phe	Pro	Tyr		
				85					90					95			
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Met	Lys							
			100					105									

&lt;210&gt; 65

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; deimmunized light chain J415-6

&lt;400&gt; 65

Asn	Ile	Val	Met	Thr	Gln	Phe	Pro	Lys	Ser	Met	Ser	Ala	Ser	Ala	Gly		
1				5				10						15			
Glu	Arg	Met	Thr	Leu	Thr	Cys	Lys	Ala	Ser	Glu	Asn	Val	Gly	Thr	Tyr		
			20					25				30					
Val	Ser	Trp	Tyr	Gln	Gln	Lys	Pro	Glu	Gln	Ser	Pro	Lys	Met	Leu	Ile		
			35				40					45					
Tyr	Gly	Ala	Ser	Asn	Arg	Phe	Thr	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly		
			50				55				60						
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ile	Leu	Thr	Ile	Ser	Ser	Val	Gln	Ala		
65							70			75					80		
Glu	Asp	Leu	Val	Asp	Tyr	Tyr	Cys	Gly	Gln	Ser	Tyr	Thr	Phe	Pro	Tyr		
				85					90					95			

Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 100 105

<210> 66

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-7

<400> 66

Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ala Ser Ala Gly  
 1 5 10 15  
 Glu Arg Val Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr  
 20 25 30  
 Val Ser Trp Tyr Gln Gln Lys Pro Thr Gln Ser Pro Lys Met Leu Ile  
 35 40 45  
 Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Ala  
 65 70 75 80  
 Glu Asp Leu Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr  
 85 90 95  
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 100 105

<210> 67

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> deimmunized light chain J415-8

<400> 67

Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ala Ser Ala Gly  
 1 5 10 15  
 Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Ser Gly Thr Tyr  
 20 25 30  
 Val Ser Trp Tyr Gln Gln Lys Pro Glu Gln Ser Pro Lys Met Leu Ile  
 35 40 45  
 Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Ala  
 65 70 75 80  
 Glu Asp Leu Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr  
 85 90 95  
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys  
 100 105

<210> 68

<211> 107

<212> PRT

<213> Artificial Sequence

<220>



<223> majority sequence

<400> 68

```

Asn Ile Val Met Thr Gln Phe Pro Lys Ser Met Ser Ala Ser Ala Gly
 1             5             10             15
Glu Arg Met Thr Leu Thr Cys Lys Ala Ser Glu Asn Val Gly Thr Tyr
      20             25             30
Val Ser Trp Tyr Gln Gln Lys Pro Thr Gln Ser Pro Lys Met Leu Ile
      35             40             45
Tyr Gly Ala Ser Asn Arg Phe Thr Gly Val Pro Asp Arg Phe Ser Gly
      50             55             60
Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ile Ser Ser Val Gln Ala
65             70             75             80
Glu Asp Leu Val Asp Tyr Tyr Cys Gly Gln Ser Tyr Thr Phe Pro Tyr
      85             90             95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Met Lys
      100             105

```

<210> 69

<211> 123

<212> PRT

<213> Mus musculus

<400> 69

```

Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1             5             10             15
Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
      20             25             30
Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
      35             40             45
Ala Glu Ile Arg Leu Lys Ser Asp Asn Tyr Ala Thr His Tyr Ala Glu
      50             55             60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Ser Ser
65             70             75             80
Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
      85             90             95
Tyr Cys Thr Thr Gly Gly Tyr Gly Gly Arg Arg Ser Trp Phe Ala Tyr
      100             105             110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
      115             120

```

<210> 70

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> majority sequence

<400> 70

```

Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1             5             10             15
Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
      20             25             30
Trp Met Asn Trp Val Arg Gln Ser Pro Glu Lys Gly Leu Glu Trp Val
      35             40             45
Ala Glu Ile Arg Leu Gln Ser Asp Asn Phe Ala Thr His Tyr Ala Glu

```

```

      50              55              60
Ser Val Lys Gly Arg Val Ile Ile Ser Arg Asp Asp Ser Lys Ser Ser
65              70              75              80
Val Tyr Leu Gln Met Asn Asn Leu Arg Ala Glu Asp Thr Gly Ile Tyr
      85              90              95
Tyr Cys Thr Thr Gly Gly Tyr Gly Gly Arg Arg Ser Trp Asn Ala Phe
      100              105              110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
      115              120

```

<210> 71  
 <211> 113  
 <212> PRT  
 <213> Mus musculus

```

<400> 71
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1              5              10              15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
      20              25              30
Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
      35              40              45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
      50              55              60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65              70              75              80
Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Asn
      85              90              95
Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
      100              105              110
Lys

```

<210> 72  
 <211> 113  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> majority sequence

```

<400> 72
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
1              5              10              15
Glu Lys Val Thr Leu Ser Cys Lys Ala Ser Glu Ser Leu Leu Asn Val
      20              25              30
Gly Asn Gln Lys Thr Tyr Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln
      35              40              45
Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val
      50              55              60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr
65              70              75              80
Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gly Asn
      85              90              95
Ser Tyr Ser Phe Pro Leu Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu
      100              105              110
Lys

```

<210> 73  
 <211> 354  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)...(354)

<400> 73  
 gag gtc cag ctg cag cag tct gga cct gag ctg gtt aag cct ggg gct 48  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
 1 5 10 15  
 tca gtg aag atg tcc tgc aag gct tct gga tac aca ttc act ggc tat 96  
 Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr  
 20 25 30  
 gtt atg cac tgg gtg aag cag aag cct gga cag gtc ctt gag tgg att 144  
 Val Met His Trp Val Lys Gln Lys Pro Gly Gln Val Leu Glu Trp Ile  
 35 40 45  
 gga tat att aat cct tac aat gat gtt act agg tat aat ggg aag ttc 192  
 Gly Tyr Ile Asn Pro Tyr Asn Asp Val Thr Arg Tyr Asn Gly Lys Phe  
 50 55 60  
 aaa ggc aag gcc aca ctg acc tca gac aaa tat tcc agc aca gcc tac 240  
 Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Tyr Ser Ser Thr Ala Tyr  
 65 70 75 80  
 atg gag ctg agc ggc ctg acc tct gag gac tct gcg gtc tat tac tgt 288  
 Met Glu Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
 85 90 95  
 gca aga ggg gag aac tgg tac tac ttt gac tcc tgg ggc cga ggc gcc 336  
 Ala Arg Gly Glu Asn Trp Tyr Tyr Phe Asp Ser Trp Gly Arg Gly Ala  
 100 105 110  
 act ctg aca gtc tcc tca 354  
 Thr Leu Thr Val Ser Ser  
 115

<210> 74  
 <211> 118  
 <212> PRT  
 <213> Mus musculus

<400> 74  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr  
 20 25 30  
 Val Met His Trp Val Lys Gln Lys Pro Gly Gln Val Leu Glu Trp Ile  
 35 40 45

Gly Tyr Ile Asn Pro Tyr Asn Asp Val Thr Arg Tyr Asn Gly Lys Phe  
 50 55 60  
 Lys Gly Lys Ala Thr Leu Thr Ser Asp Lys Tyr Ser Ser Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Gly Glu Asn Trp Tyr Tyr Phe Asp Ser Trp Gly Arg Gly Ala  
 100 105 110  
 Thr Leu Thr Val Ser Ser  
 115

<210> 75  
 <211> 354  
 <212> DNA  
 <213> Mus musculus

<400> 75  
 tgaggagact gtgagagtgg cgcctcggcc ccaggagtca aagtagtacc agttctcccc 60  
 tcttgacacag taatagaccg cagagtcctc agaggtcagg ccgctgagct ccatgtaggc 120  
 tgtgctggaa tattgtctg aggtcagtgt ggccttgcc ttgaacttcc cattatacct 180  
 agtaacatca ttgtaaggat taatatatcc aatccactca aggacctgtc caggcttctg 240  
 cttcacccag tgcataacat agccagtga tgtgtatcca gaagccttgc aggacatctt 300  
 cactgaagcc ccaggcttaa ccagctcagg tccagactgc tgcagctgga cctc 354

<210> 76  
 <211> 333  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)...(333)

<400> 76  
 gac att gtg ctg acc caa tct cca gct tct ttg gct gtg tct cta gga 48  
 Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 cag agg gcc acc ata tcc tgc aga gcc agt gaa agt att gat agt tat 96  
 Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Ile Asp Ser Tyr  
 20 25 30  
 gac aat act ttt atg cac tgg tac cag cag aaa cca gga cag cca ccc 144  
 Asp Asn Thr Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro  
 35 40 45  
 aac ctc ctc atc ttt cgt gca tcc atc cta gaa tct ggg atc cct gcc 192  
 Asn Leu Leu Ile Phe Arg Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala  
 50 55 60  
 agg ttc agt ggc agt ggg tct ggg aca gac ttc acc ctc acc att tat 240  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Tyr  
 65 70 75 80  
 cct gtg gag gct gat gat gtt gca acc tat tac tgt cac caa agt att 288  
 Pro Val Glu Ala Asp Asp Val Ala Thr Tyr Tyr Cys His Gln Ser Ile  
 85 90 95

gag gat ccg tac acg ttc gga ggg ggg acc aag ctg gaa ata aaa 333  
 Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
           100                          105                          110

<210> 77  
 <211> 111  
 <212> PRT  
 <213> Mus musculus

<400> 77  
 Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
   1                          5                          10                          15  
 Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Ile Asp Ser Tyr  
           20                          25                          30  
 Asp Asn Thr Phe Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro  
           35                          40                          45  
 Asn Leu Leu Ile Phe Arg Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala  
           50                          55                          60  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Tyr  
   65                          70                          75                          80  
 Pro Val Glu Ala Asp Asp Val Ala Thr Tyr Tyr Cys His Gln Ser Ile  
           85                          90                          95  
 Glu Asp Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
           100                          105                          110

<210> 78  
 <211> 333  
 <212> DNA  
 <213> Mus musculus

<400> 78  
 ttttatttcc agcttggtcc cccctccgaa cgtgtacgga tcttcaatac tttggtgaca 60  
 gtaatagggtt gcaacatcat cagcctccac aggataaatg gtgagggtga agtctgtccc 120  
 agaccactg ccaactgaacc tggcagggat cccagattct aggatggatg cacgaaagat 180  
 gaggaggttg ggtggctgtc ctggtttctg ctggtaccag tgcataaaag tattgtcata 240  
 actatcaata ctttactggt ctctgcagga tatggtggcc ctctgtccta gagacacagc 300  
 caaagaagct ggagattggg tcagcacaat gtc 333

<210> 79  
 <211> 125  
 <212> PRT  
 <213> Mus musculus

<400> 79  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
   1                          5                          10                          15  
 Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr  
           20                          25                          30  
 Tyr Met Asn Asn Trp Val Lys Gln Ser Pro Gly Lys Ser Leu Glu Trp  
           35                          40                          45  
 Ile Gly Asp Ile Asn Pro Gly Asn Gly Gly Thr Ser Tyr Asn Gln Lys  
           50                          55                          60  
 Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala  
   65                          70                          75                          80  
 Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr

				85					90					95		
Cys	Ala	Arg	Gly	Tyr	Tyr	Ser	Ser	Ser	Tyr	Met	Ala	Tyr	Tyr	Ala	Phe	
			100					105					110			
Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser				
		115					120					125				

<210> 80  
 <211> 125  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> majority sequence

<400> 80																
Glu	Val	Gln	Leu	Gln	Gln	Ser	Gly	Pro	Glu	Leu	Val	Lys	Pro	Gly	Ala	
1				5					10					15		
Ser	Val	Lys	Ile	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Gly	Tyr	
			20					25					30			
Val	Met	Asn	Asn	Trp	Val	Lys	Gln	Ser	Pro	Gly	Gln	Val	Leu	Glu	Trp	
		35					40					45				
Ile	Gly	Asp	Ile	Asn	Pro	Gly	Asn	Gly	Gly	Thr	Ser	Tyr	Asn	Gly	Lys	
	50					55					60					
Phe	Lys	Gly	Lys	Ala	Thr	Leu	Thr	Val	Asp	Lys	Ser	Ser	Ser	Thr	Ala	
65					70				75						80	
Tyr	Met	Glu	Leu	Ser	Gly	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Tyr	
				85					90					95		
Cys	Ala	Arg	Gly	Glu	Asn	Ser	Ser	Ser	Tyr	Met	Ala	Tyr	Tyr	Ala	Phe	
			100					105					110			
Asp	Ser	Trp	Gly	Gln	Gly	Ala	Thr	Val	Thr	Val	Ser	Ser				
		115					120					125				

<210> 81  
 <211> 112  
 <212> PRT  
 <213> Mus musculus

<400> 81																
Asp	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Ser	Leu	Ala	Val	Ser	Leu	Gly	
1				5					10					15		
Gln	Arg	Ala	Thr	Ile	Ser	Cys	Arg	Ala	Ser	Glu	Ser	Val	Asp	Ser	Tyr	
		20						25					30			
Gly	Asn	Ser	Phe	Met	His	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Pro	Pro	
		35					40					45				
Lys	Leu	Leu	Ile	Tyr	Ala	Ala	Ser	Asn	Leu	Glu	Ser	Gly	Val	Pro	Ala	
	50					55					60					
Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Asn	Ile	His	
65					70				75						80	
Pro	Val	Glu	Glu	Asp	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Ser	Asn	
				85					90					95		
Glu	Asp	Pro	Pro	Trp	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	
			100					105					110			

<210> 82  
 <211> 112  
 <212> PRT  
 <213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; majority sequence

&lt;400&gt; 82

Asp	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Ser	Leu	Ala	Val	Ser	Leu	Gly
1				5				10					15		
Gln	Arg	Ala	Thr	Ile	Ser	Cys	Arg	Ala	Ser	Glu	Ser	Val	Asp	Ser	Tyr
		20						25				30			
Gly	Asn	Ser	Phe	Met	His	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Pro	Pro
	35					40					45				
Asn	Leu	Leu	Ile	Phe	Ala	Ala	Ser	Ile	Leu	Glu	Ser	Gly	Val	Pro	Ala
	50					55					60				
Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	His
65				70				75						80	
Pro	Val	Glu	Ala	Asp	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Ser	Ile
			85					90					95		
Glu	Asp	Pro	Pro	Tyr	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100				105						110		

&lt;210&gt; 83

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; Mus musculus

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)...(363)

&lt;400&gt; 83

cag	gtg	cag	cta	aag	gag	tca	gga	cct	ggc	ctg	gtg	gcg	tcc	tca	cag	48
Gln	Val	Gln	Leu	Lys	Glu	Ser	Gly	Pro	Gly	Leu	Val	Ala	Ser	Ser	Gln	
1			5				10						15			
agc	ctg	tcc	atc	aca	tgc	acc	gtc	tca	gga	ttc	tca	tta	acc	gcc	tat	96
Ser	Leu	Ser	Ile	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu	Thr	Ala	Tyr	
		20					25					30				
ggt	att	aac	tgg	gtt	cgc	cag	cct	cca	gga	aag	ggt	ctg	gag	tgg	ctg	144
Gly	Ile	Asn	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Leu	
	35					40					45					
gga	gtg	ata	tgg	cct	gat	gga	aac	aca	gac	tat	aat	tca	act	ctc	aaa	192
Gly	Val	Ile	Trp	Pro	Asp	Gly	Asn	Thr	Asp	Tyr	Asn	Ser	Thr	Leu	Lys	
	50					55				60						
tcc	aga	ctg	aac	atc	ttc	aag	gac	aac	tcc	aag	aac	caa	gtt	ttc	tta	240
Ser	Arg	Leu	Asn	Ile	Phe	Lys	Asp	Asn	Ser	Lys	Asn	Gln	Val	Phe	Leu	
65			70				75							80		
aaa	atg	agc	agt	ttc	caa	act	gat	gac	aca	gcc	aga	tac	ttc	tgt	gcc	288
Lys	Met	Ser	Ser	Phe	Gln	Thr	Asp	Asp	Thr	Ala	Arg	Tyr	Phe	Cys	Ala	
			85				90						95			
aga	gat	tcg	tat	ggg	aac	ttc	aag	agg	ggg	tgg	ttt	gac	ttc	tgg	ggc	336
Arg	Asp	Ser	Tyr	Gly	Asn	Phe	Lys	Arg	Gly	Trp	Phe	Asp	Phe	Trp	Gly	
			100				105						110			

cag ggc acc act ctc aca gtc tcc tca  
 Gln Gly Thr Thr Leu Thr Val Ser Ser  
       115                      120

363

<210> 84  
 <211> 121  
 <212> PRT  
 <213> Mus musculus

<400> 84  
 Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Ser Ser Gln  
   1                      5                      10                      15  
 Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Ala Tyr  
           20                      25                      30  
 Gly Ile Asn Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu  
           35                      40                      45  
 Gly Val Ile Trp Pro Asp Gly Asn Thr Asp Tyr Asn Ser Thr Leu Lys  
           50                      55                      60  
 Ser Arg Leu Asn Ile Phe Lys Asp Asn Ser Lys Asn Gln Val Phe Leu  
   65                      70                      75                      80  
 Lys Met Ser Ser Phe Gln Thr Asp Asp Thr Ala Arg Tyr Phe Cys Ala  
           85                      90                      95  
 Arg Asp Ser Tyr Gly Asn Phe Lys Arg Gly Trp Phe Asp Phe Trp Gly  
           100                      105                      110  
 Gln Gly Thr Thr Leu Thr Val Ser Ser  
       115                      120

<210> 85  
 <211> 363  
 <212> DNA  
 <213> Mus musculus

<400> 85  
 tgaggagact gtgagagtgg tgccctggcc ccagaagtca aaccaacccc tcttgaagtt      60  
 accatacgaa tctctggcac agaagtatct ggctgtgtca tcagtttgga aactgctcat      120  
 ttttaagaaa acttggttct tggagttgtc cttgaagatg ttcagtctgg atttgagagt      180  
 tgaattatag tctgtgtttc catcaggcca tatcactccc agccactcca gaccctttcc      240  
 tggaggctgg cgaaccagtg taataccata ggcggttaat gagaatcctg agacggtgca      300  
 tgtgatggac aggctctgtg aggacgccac caggccaggt cctgactcct ttagctgcac      360  
 ctg  363

<210> 86  
 <211> 321  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1) ... (321)

<400> 86  
 aac att gtg atg acc cag tct caa aaa ttc atg tcc aca tca cca gga      48  
 Asn Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Pro Gly  
   1                      5                      10                      15



gac agg gtc agg gtc acc tgc aag gcc agt cag aat gtg ggt tct gat 96  
 Asp Arg Val Arg Val Thr Cys Lys Ala Ser Gln Asn Val Gly Ser Asp  
                   20                  25                  30

gta gcc tgg tat caa gcg aaa cca gga caa tct cct aga ata ctg att 144  
 Val Ala Trp Tyr Gln Ala Lys Pro Gly Gln Ser Pro Arg Ile Leu Ile  
                   35                  40                  45

tac tcg aca tcc tac cgt tac agt ggg gtc cct gat cgc ttc aca gcc 192  
 Tyr Ser Thr Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Ala  
                   50                  55                  60

tat gga tct ggg aca gat ttc act ctc acc att acc aat gtg cag tct 240  
 Tyr Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser  
                   65                  70                  75                  80

gaa gac ttg aca gag tat ttc tgt cag caa tat aat agc tat cct ctc 288  
 Glu Asp Leu Thr Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Leu  
                   85                  90                  95

acg ttc ggt gct ggg acc aag ctg gag ctg aaa 321  
 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
                   100                  105

<210> 87

<211> 107

<212> PRT

<213> Mus musculus

<400> 87

Asn Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Pro Gly  
   1                  5                  10                  15  
 Asp Arg Val Arg Val Thr Cys Lys Ala Ser Gln Asn Val Gly Ser Asp  
                   20                  25                  30  
 Val Ala Trp Tyr Gln Ala Lys Pro Gly Gln Ser Pro Arg Ile Leu Ile  
                   35                  40                  45  
 Tyr Ser Thr Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Ala  
                   50                  55                  60  
 Tyr Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser  
   65                  70                  75                  80  
 Glu Asp Leu Thr Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Leu  
                   85                  90                  95  
 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
                   100                  105

<210> 88

<211> 321

<212> DNA

<213> Mus musculus

<400> 88

tttcagctcc agcttggtcc cagcaccgaa cgtgagagga tagctattat attgctgaca 60  
 gaaatactct gtcaagtctt cagactgcac attggtaatg gtgagagtga aatctgtccc 120  
 agatccatag gctgtgaagc gatcaggagc cccactgtaa cggtaggatg tcgagtaaatt 180  
 cagtattcta ggagattgtc ctggtttcgc ttgataccag gctacatcag aaccacatt 240  
 ctgactggcc ttgcagggtga ccctgaccct gtctcctggt gatgtggaca tgaatttttg 300

agactgggtc atcacaatgt t

321

&lt;210&gt; 89

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 89

Gln	Val	Gln	Leu	Lys	Glu	Ser	Gly	Pro	Gly	Leu	Val	Ala	Ser	Ser	Gln
1				5					10					15	
Ser	Leu	Ser	Ile	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu	Thr	Ala	Tyr
			20					25					30		
Gly	Ile	Asn	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Leu
		35					40					45			
Gly	Val	Ile	Trp	Pro	Asp	Gly	Asn	Thr	Asp	Tyr	Asn	Ser	Thr	Leu	Lys
	50					55					60				
Ser	Arg	Leu	Asn	Ile	Phe	Lys	Asp	Asn	Ser	Lys	Asn	Gln	Val	Phe	Leu
65					70					75				80	
Lys	Met	Ser	Ser	Phe	Gln	Thr	Asp	Asp	Thr	Ala	Arg	Tyr	Phe	Cys	Ala
				85					90					95	
Arg	Asp	Ser	Tyr	Gly	Asn	Phe	Lys	Arg	Gly	Trp	Phe	Asp	Phe	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Thr	Leu	Thr	Val	Ser	Ser							
		115						120							

&lt;210&gt; 90

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; majority sequence

&lt;400&gt; 90

Gln	Val	Gln	Leu	Lys	Glu	Ser	Gly	Pro	Gly	Leu	Val	Ala	Ser	Ser	Gln
1				5					10					15	
Ser	Leu	Ser	Ile	Thr	Cys	Thr	Val	Ser	Gly	Phe	Ser	Leu	Thr	Ala	Tyr
			20					25					30		
Gly	Ile	Asn	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Leu
		35					40					45			
Gly	Val	Ile	Trp	Pro	Asp	Gly	Asn	Thr	Asp	Tyr	Asn	Ser	Thr	Leu	Lys
	50					55					60				
Ser	Arg	Leu	Asn	Ile	Phe	Lys	Asp	Asn	Ser	Lys	Asn	Gln	Val	Phe	Leu
65					70					75				80	
Lys	Met	Ser	Ser	Phe	Gln	Thr	Asp	Asp	Thr	Ala	Arg	Tyr	Phe	Cys	Ala
				85					90					95	
Arg	Asp	Ser	Tyr	Gly	Asn	Phe	Lys	Arg	Gly	Trp	Phe	Asp	Phe	Trp	Gly
			100					105					110		
Gln	Gly	Thr	Thr	Leu	Thr	Val	Ser	Ser							
		115						120							

&lt;210&gt; 91

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 91

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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly
 1           5           10           15
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser
          20           25           30
Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
          35           40           45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
          50           55           60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65           70           75           80
Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Asn
          85           90           95
Asp Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
          100          105          110
Lys

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<210> 92
<211> 115
<212> PRT
<213> Artificial Sequence

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<220>
<223> majority sequence

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<400> 92
Asp Ile Val Met Thr Gln Ser Gln Ser Ser Leu Ala Val Ser Ala Gly
 1           5           10           15
Asp Lys Val Thr Val Ser Cys Lys Ala Ser Gln Ser Leu Leu Asn Val
          20           25           30
Gly Ser Asp Lys Asn Tyr Val Ala Trp Tyr Gln Ala Lys Pro Gly Gln
          35           40           45
Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Thr Arg Glu Ser Gly Val
          50           55           60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65           70           75           80
Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Phe Cys Gln Asn
          85           90           95
Asp Asn Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
          100          105          110
Lys Arg Ala
          115

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<210> 93
<211> 10
<212> PRT
<213> Mus musculus

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<400> 93
Gly Tyr Thr Phe Thr Gly Tyr Val Met His
 1           5           10

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<210> 94
<211> 17
<212> PRT
<213> Mus musculus

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&lt;400&gt; 94

Tyr Ile Asn Pro Tyr Asn Asp Val Thr Arg Tyr Asn Gly Lys Phe Lys  
 1 5 10 15  
 Gly

&lt;210&gt; 95

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 95

Gly Glu Asn Trp Tyr Tyr Phe Asp Ser  
 1 5

&lt;210&gt; 96

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 96

Arg Ala Ser Glu Ser Ile Asp Ser Tyr Asp Asn Thr Phe Met His  
 1 5 10 15

&lt;210&gt; 97

&lt;211&gt; 7

&lt;212&gt; PRT

&lt;213&gt; Mus Musculus

&lt;400&gt; 97

Arg Ala Ser Ile Leu Glu Ser  
 1 5

&lt;210&gt; 98

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 98

His Gln Ser Ile Glu Asp Pro Tyr Thr  
 1 5

&lt;210&gt; 99

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 99

Gly Phe Ser Leu Thr Ala Tyr Gly Ile Asn  
 1 5 10

&lt;210&gt; 100

&lt;211&gt; 16

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 100

Val Ile Trp Pro Asp Gly Asn Thr Asp Tyr Asn Ser Thr Leu Lys Ser  
 1 5 10 15

<210> 101  
 <211> 13  
 <212> PRT  
 <213> Mus musculus

<400> 101  
 Asp Ser Tyr Gly Asn Phe Lys Arg Gly Trp Phe Asp Phe  
 1 5 10

<210> 102  
 <211> 11  
 <212> PRT  
 <213> Mus musculus

<400> 102  
 Lys Ala Ser Gln Asn Val Gly Ser Asp Val Ala  
 1 5 10

<210> 103  
 <211> 7  
 <212> PRT  
 <213> Mus musculus

<400> 103  
 Ser Thr Ser Tyr Arg Tyr Ser  
 1 5

<210> 104  
 <211> 9  
 <212> PRT  
 <213> Mus musculus

<400> 104  
 Gln Gln Tyr Asn Ser Tyr Pro Leu Thr  
 1 5

<210> 105  
 <211> 25  
 <212> PRT  
 <213> Mus musculus

<400> 105  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Met Ser Cys Lys Ala Ser  
 20 25

<210> 106  
 <211> 14  
 <212> PRT  
 <213> Mus musculus

<400> 106  
 Trp Val Lys Gln Lys Pro Gly Gln Val Leu Glu Trp Ile Gly

1                      5                      10  
 <210> 107  
 <211> 32  
 <212> PRT  
 <213> Mus musculus  
  
 <400> 107  
 Lys Ala Thr Leu Thr Ser Asp Lys Tyr Ser Ser Thr Ala Tyr Met Glu  
 1                      5                      10                      15  
 Leu Ser Gly Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg  
                     20                      25                      30  
  
 <210> 108  
 <211> 11  
 <212> PRT  
 <213> Mus musculus  
  
 <400> 108  
 Trp Gly Arg Gly Ala Thr Leu Thr Val Ser Ser  
 1                      5                      10  
  
 <210> 109  
 <211> 82  
 <212> PRT  
 <213> Mus musculus  
  
 <400> 109  
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala  
 1                      5                      10                      15  
 Ser Val Lys Met Ser Cys Lys Ala Ser Trp Val Lys Gln Lys Pro Gly  
                     20                      25                      30  
 Gln Val Leu Glu Trp Ile Gly Lys Ala Thr Leu Thr Ser Asp Lys Tyr  
                     35                      40                      45  
 Ser Ser Thr Ala Tyr Met Glu Leu Ser Gly Leu Thr Ser Glu Asp Ser  
                     50                      55                      60  
 Ala Val Tyr Tyr Cys Ala Arg Trp Gly Arg Gly Ala Thr Leu Thr Val  
 65                      70                      75                      80  
 Ser Ser  
  
 <210> 110  
 <211> 23  
 <212> PRT  
 <213> Mus musculus  
  
 <400> 110  
 Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
 1                      5                      10                      15  
 Gln Arg Ala Thr Ile Ser Cys  
                     20  
  
 <210> 111  
 <211> 15  
 <212> PRT  
 <213> Mus musculus

&lt;400&gt; 111

Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Asn Leu Leu Ile Phe  
 1 5 10 15

&lt;210&gt; 112

&lt;211&gt; 32

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 112

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr  
 1 5 10 15  
 Leu Thr Ile Tyr Pro Val Glu Ala Asp Asp Val Ala Thr Tyr Tyr Cys  
 20 25 30

&lt;210&gt; 113

&lt;211&gt; 10

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 113

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
 1 5 10

&lt;210&gt; 114

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 114

Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Gln Arg Ala Thr Ile Ser Cys Trp Tyr Gln Gln Lys Pro Gly Gln Pro  
 20 25 30  
 Pro Asn Leu Leu Ile Phe Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly  
 35 40 45  
 Ser Gly Thr Asp Phe Thr Leu Thr Ile Tyr Pro Val Glu Ala Asp Asp  
 50 55 60  
 Val Ala Thr Tyr Tyr Cys Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
 65 70 75 80

&lt;210&gt; 115

&lt;211&gt; 25

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 115

Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Ser Ser Gln  
 1 5 10 15  
 Ser Leu Ser Ile Thr Cys Thr Val Ser  
 20 25

&lt;210&gt; 116

&lt;211&gt; 14

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 116

Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu Gly  
 1 5 10

&lt;210&gt; 117

&lt;211&gt; 32

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 117

Arg Leu Asn Ile Phe Lys Asp Asn Ser Lys Asn Gln Val Phe Leu Lys  
 1 5 10 15  
 Met Ser Ser Phe Gln Thr Asp Asp Thr Ala Arg Tyr Phe Cys Ala Arg  
 20 25 30

&lt;210&gt; 118

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 118

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser  
 1 5 10

&lt;210&gt; 119

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 119

Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Ser Ser Gln  
 1 5 10 15  
 Ser Leu Ser Ile Thr Cys Thr Val Ser Trp Val Arg Gln Pro Pro Gly  
 20 25 30  
 Lys Gly Leu Glu Trp Leu Gly Arg Leu Asn Ile Phe Lys Asp Asn Ser  
 35 40 45  
 Lys Asn Gln Val Phe Leu Lys Met Ser Ser Phe Gln Thr Asp Asp Thr  
 50 55 60  
 Ala Arg Tyr Phe Cys Ala Arg Trp Gly Gln Gly Thr Thr Leu Thr Val  
 65 70 75 80  
 Ser Ser

&lt;210&gt; 120

&lt;211&gt; 23

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 120

Asn Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Pro Gly  
 1 5 10 15  
 Asp Arg Val Arg Val Thr Cys  
 20

&lt;210&gt; 121

&lt;211&gt; 15

&lt;212&gt; PRT



<213> Mus musculus

<400> 121

Trp Tyr Gln Ala Lys Pro Gly Gln Ser Pro Arg Ile Leu Ile Tyr  
1 5 10 15

<210> 122

<211> 32

<212> PRT

<213> Mus musculus

<400> 122

Gly Val Pro Asp Arg Phe Thr Ala Tyr Gly Ser Gly Thr Asp Phe Thr  
1 5 10 15  
Leu Thr Ile Thr Asn Val Gln Ser Glu Asp Leu Thr Glu Tyr Phe Cys  
20 25 30

<210> 123

<211> 10

<212> PRT

<213> Mus musculus

<400> 123

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
1 5 10

<210> 124

<211> 80

<212> PRT

<213> Mus musculus

<400> 124

Asn Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Pro Gly  
1 5 10 15  
Asp Arg Val Arg Val Thr Cys Trp Tyr Gln Ala Lys Pro Gly Gln Ser  
20 25 30  
Pro Arg Ile Leu Ile Tyr Gly Val Pro Asp Arg Phe Thr Ala Tyr Gly  
35 40 45  
Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser Glu Asp  
50 55 60  
Leu Thr Glu Tyr Phe Cys Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys  
65 70 75 80

<210> 125

<211> 348

<212> DNA

<213> Mus musculus

<400> 125

gaagtgaagc	ttgaggagtc	tggaggaggc	ttggtgcaac	ctggaggatc	catgaaactc	60
tcctgtgttg	cctctggatt	cactttcagt	aattactgga	tgaactgggt	ccgccagtct	120
ccagagaagg	ggcttgagtg	ggttgctgaa	attagatcgc	aatctaataa	ttttgcaaca	180
cattatgcgg	agtctgtgaa	agggagggtc	atcatctcaa	gagatgattc	caagagtagt	240
gtctacctgc	aaatgaacaa	cttgagagct	gaagacactg	gcatttatta	ctgtaccagg	300
cgatggaata	atttctgggg	ccaaggcacc	actctcacag	tctcctca		348

<210> 126

<211> 348  
 <212> DNA  
 <213> Mus musculus

<400> 126  
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 ataaatgccca gtgtcttcag ctctcaagtt gttcatttgc aggtagacac tactcttgga 120  
 atcatctctt gagatgatga ccctcccttt cacagactcc gcataatgtg ttgcaaaatt 180  
 attagattgc gatctaattt cagcaaccca ctcaagcccc ttctctggag actggcggac 240  
 ccagttcatc cagtaattac tgaaagtga tccagaggca acacaggaga gtttcatgga 300  
 tcctccaggt tgcaccaagc ctctccaga ctctcaagc ttcacttc 348

<210> 127  
 <211> 321  
 <212> DNA  
 <213> Mus musculus

<400> 127  
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 ttgacctgca aggccagtga gaatgtgggt acttatgtgt cctggatatca acagaaacca 120  
 gaacagtctc ctaagatgtt gatatacggg gcatccaacc gggttactgg ggtccccgat 180  
 cgcttcacag gcagtggatc tgcaacagat ttcattctga ccatcagcag tgtgcagact 240  
 gaagaccttg tagattatta ctgtggacag agttacacct ttccgtacac gttcggaggg 300  
 gggaccaagc tggaaatgaa g 321

<210> 128  
 <211> 321  
 <212> DNA  
 <213> Mus musculus

<400> 128  
 cttcatttcc agcttgggtcc cccctccgaa cgtgtacgga aaggtgtaac tctgtccaca 60  
 gtaataatct acaaggctct cagtctgcac actgctgatg gtcagaatga aatctgttgc 120  
 agatccactg cctgtgaagc gatcggggac cccagtgaac cggttggatg ccccgatat 180  
 caacatctta ggagactgtt ctggtttctg ttgataccag gacacataag taccacatt 240  
 ctactggcc ttgcaggtca aggtgaccct ctctctact gaaatggaca tggatttggg 300  
 aaattgggtc attacatgt t 321